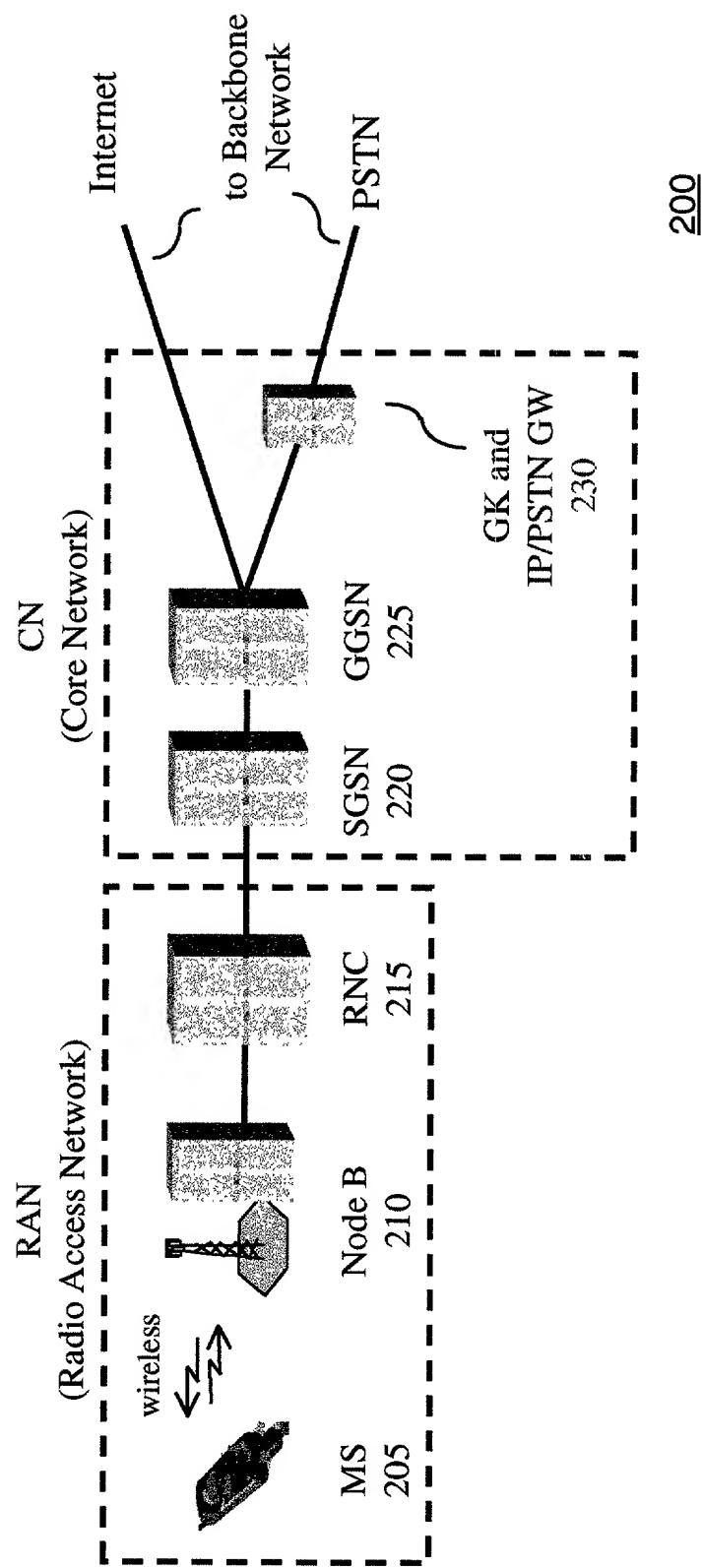


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FIG. 1



Prior Art

FIG. 2 Chuah 53

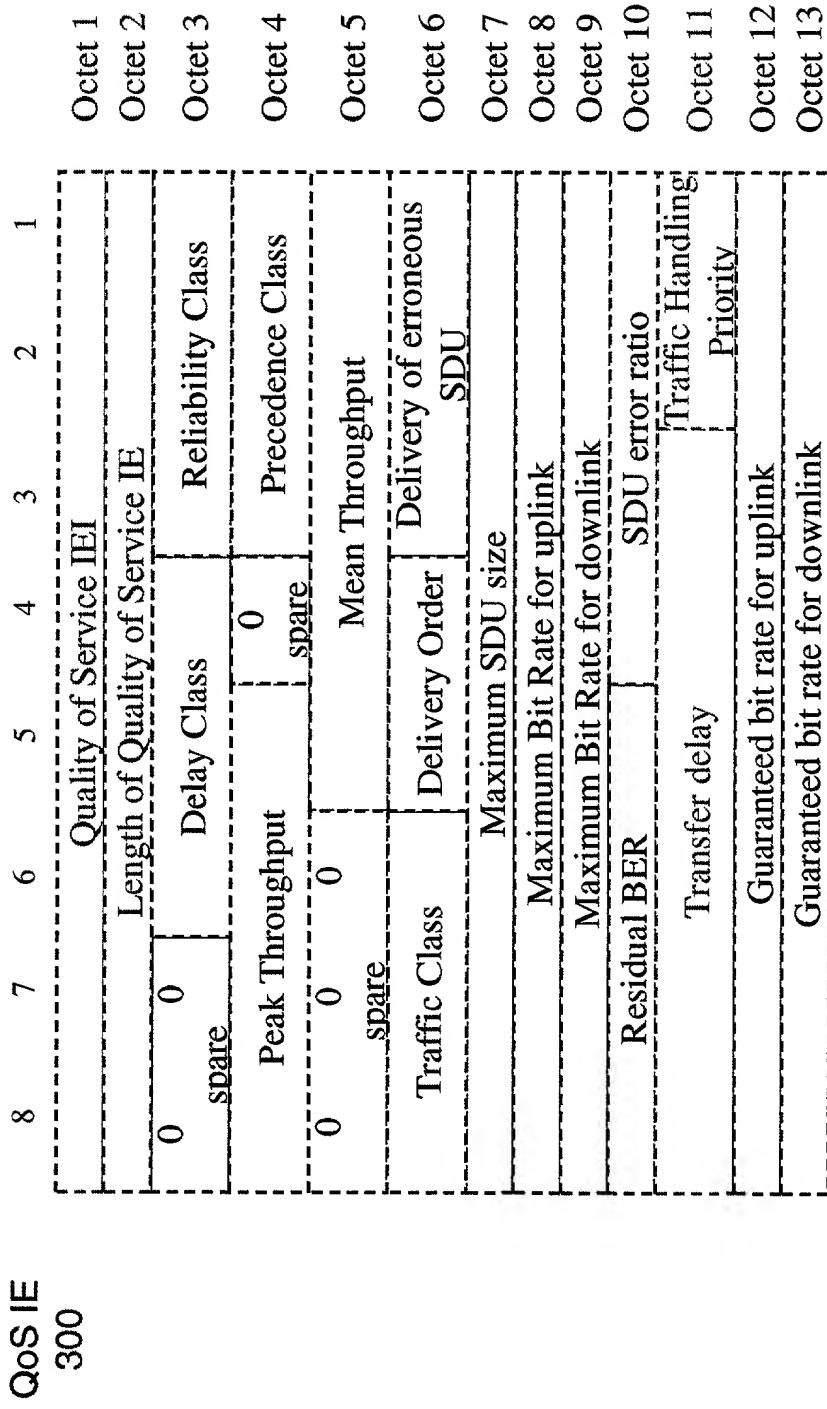
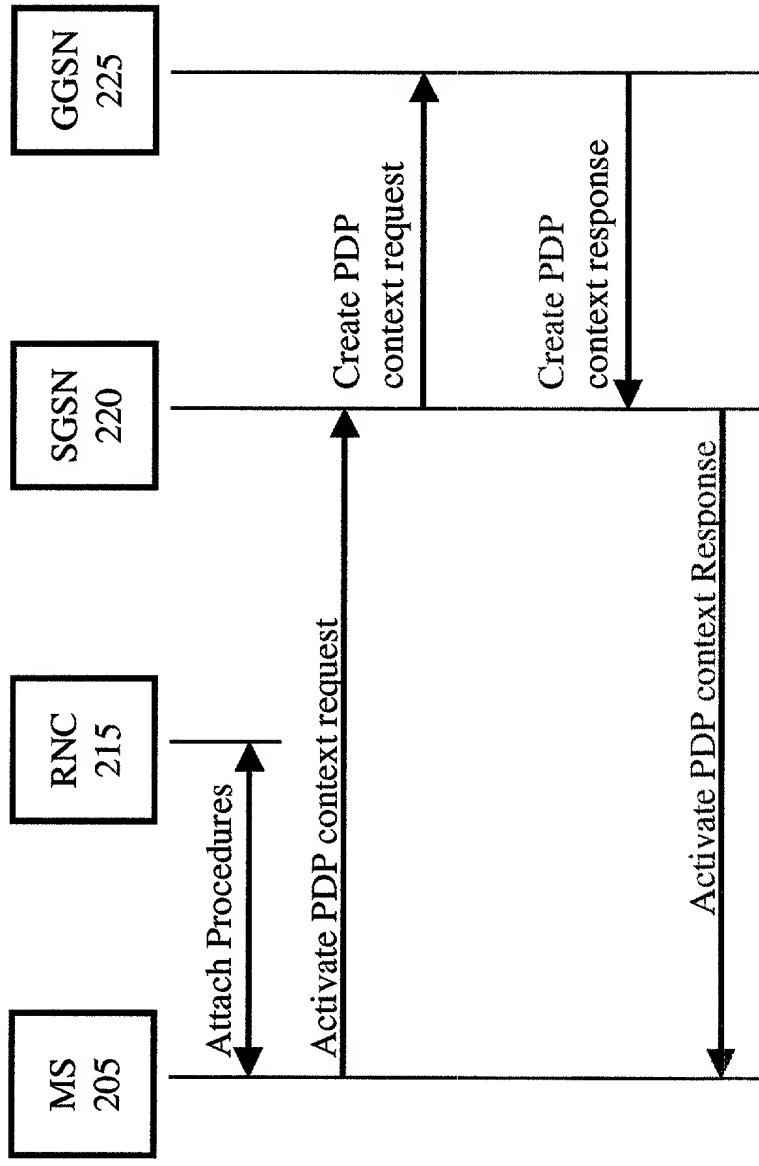


FIG. 3 Chuah 53

Packet Data Protocol (PDP) Context Activation Procedure



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FIG. 4

| Asymmetric QoS IE |   |   | 400 |       | Quality of Service IEI                           |                                    | Octet 1  |         |
|-------------------|---|---|-----|-------|--|------------------------------------|----------|---------|
|                   |   |   |     |       | Length of Quality of Service IE                  |                                    | Octet 2  |         |
| D                 | T | R | 0   | 0     | Delay Class                                      | Reliability Class                  | Octet 3  | Octet 4 |
| Peak Throughput   |   |   |     | 0     | Precedence Class                                 |                                    |          |         |
| spare             |   |   |     | spare |  |                                    |          |         |
|                   |   |   |     |       | Mean Throughput                                  |                                    |          |         |
|                   |   |   |     |       | Downlink Delivery Order                          | Downlink Delivery of erroneous SDU | Octet 6  |         |
|                   |   |   |     |       | Delivery Order                                   |                                    |          |         |
|                   |   |   |     |       | Maximum SDU size                                 |                                    | Octet 7  |         |
|                   |   |   |     |       |  |                                    | Octet 8  |         |
|                   |   |   |     |       | Maximum Bit Rate for uplink                      |                                    | Octet 9  |         |
|                   |   |   |     |       |  |                                    | Octet 10 |         |
|                   |   |   |     |       | Maximum Bit Rate for downlink                    | Downlink SDU error ratio           |          |         |
|                   |   |   |     |       |  | Traffic Handling Priority          |          |         |
|                   |   |   |     |       |  |                                    | Octet 11 |         |
|                   |   |   |     |       | Downlink Transfer delay                          |                                    |          |         |
|                   |   |   |     |       |  |                                    | Octet 12 |         |
|                   |   |   |     |       | Maximum Desired Guaranteed bit rate for uplink   |                                    | Octet 13 |         |
|                   |   |   |     |       |  |                                    | Octet 14 |         |
|                   |   |   |     |       | Maximum Desired Guaranteed bit rate for downlink |                                    | Octet 15 |         |
|                   |   |   |     |       |  |                                    | Octet 16 |         |
|                   |   |   |     |       | Minimum Desired Guaranteed bit rate for uplink   | Uplink Delivery Order              | Octet 17 |         |
|                   |   |   |     |       |  | Delivery Order                     | Octet 18 |         |
|                   |   |   |     |       | Minimum Desired Guaranteed bit rate for downlink | Uplink SDU error ratio             |          |         |
|                   |   |   |     |       |  |                                    |          |         |
|                   |   |   |     |       | Uplink Transfer delay                            | Spare                              |          |         |
|                   |   |   |     |       |  |                                    |          |         |

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FIG. 5

| <i>D bit</i> | Traffic Class Field Value | Traffic Class  |
|--------------|---------------------------|--|
| 0            | 000                       | Subscribed traffic class/Reserved                      |
| 0            | 001                       | Conversational   |
| 0            | 010                       | Streaming  |
| 0            | 011                       | Interactive  |
| 0            | 100                       | Background   |
| 0            | 101                       | Reserved   |
| 0            | 110                       | Reserved   |
| 0            | 111                       | Reserved   |
| 1            | 000                       | Subscribed traffic class/Reserved                      |
| 1            | 001                       | Conversational   |
| 1            | 010                       | Streaming  |
| 1            | 011                       | Interactive  |
| 1            | 100                       | Background   |
| 1            | 101                       | First try Streaming, then Interactive                  |
| 1            | 110                       | First try Interactive, then Background                 |
| 1            | 111                       | First try Streaming, then Interactive, then Background |

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FIG. 6

|                        |  |                                    |                 |
|------------------------|--|------------------------------------|-----------------|
| Asymmetric QoS IE      | 500  | Quality of Service IEI             | Octet 1         |
|                        |  | Length of Quality of Service IE    | Octet 2         |
| U                      | 0  | Delay Class                        | Octet 3         |
| U                      | spare  | Peak Throughput                    | Octet 4         |
| D                      | T  | R                                  | Mean Throughput |
| Downlink Traffic Class | Downlink Delivery Order                          | Downlink Delivery of erroneous SDU | Octet 5         |
|                        | Maximum SDU size                                 |                                    | Octet 6         |
|                        | Maximum Bit Rate for uplink                      |                                    | Octet 7         |
|                        | Maximum Bit Rate for downlink                    |                                    | Octet 8         |
| Downlink Residual BER  | Downlink SDU error ratio                         |                                    | Octet 9         |
|                        | Downlink Transfer delay                          | Traffic Handling Priority          | Octet 10        |
|                        |  |                                    | Octet 11        |
|                        | Maximum Desired Guaranteed bit rate for uplink   |                                    | Octet 12        |
|                        | Maximum Desired Guaranteed bit rate for downlink |                                    | Octet 13        |
|                        | Minimum Desired Guaranteed bit rate for uplink   |                                    | Octet 14        |
|                        | Minimum Desired Guaranteed bit rate for downlink |                                    | Octet 15        |
| Uplink Traffic Class   | Uplink Delivery Order                            | Uplink Delivery of erroneous SDU   | Octet 16        |
| Uplink Residual BER    | Uplink SDU error ratio                           |                                    | Octet 17        |
|                        | Uplink Transfer delay                            | Spare                              | Octet 18        |

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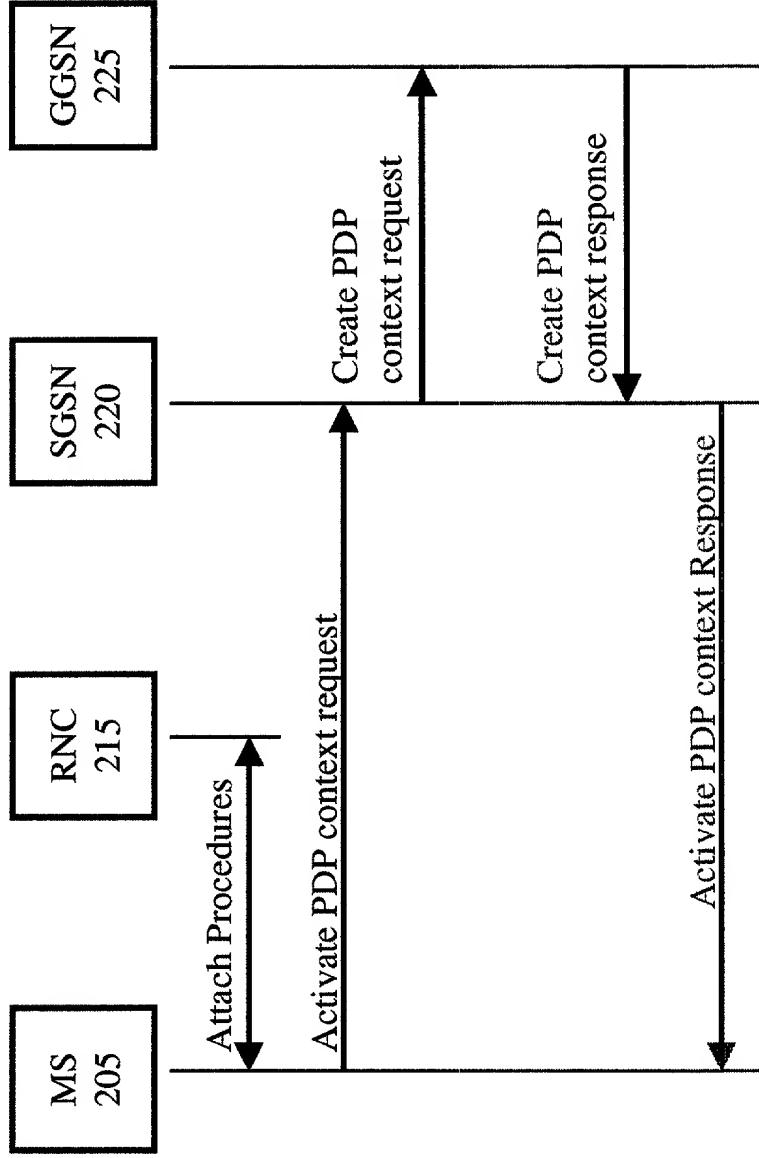
FIG. 7

| <i>U bit</i> | <i>D bit</i> | Traffic Class Field Value | Traffic Class                                 |
|--------------|--------------|---------------------------|---|
| 0            | 0            | 000                       | Subscribed traffic class/Reserved             |
| 0            | 0            | 001                       | Conversational                                |
| 0            | 0            | 010                       | Streaming                                     |
| 0            | 0            | 011                       | Interactive                                   |
| 0            | 0            | 100                       | Background                                    |
| 0            | 0            | 101                       | Reserved                                      |
| 0            | 0            | 110                       | Reserved                                      |
| 0            | 0            | 111                       | Reserved                                      |
| • • •        |              |                           |   |
| 1            | 0            | 101                       | Interactive to Streaming                      |
| 1            | 0            | 110                       | Best Effort to Interactive                    |
| 1            | 0            | 111                       | Best Effort to Streaming, else to Interactive |

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FIG. 8

Packet Data Protocol (PDP) Context Activation Procedure  
with asymmetric QoS IE



Asymmetric QoS negotiation

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FIG. 9

